

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte ALBERT HASPER,  
SEBASTIAAN ELIZA NOOTEN and MENS O HENDRIKS

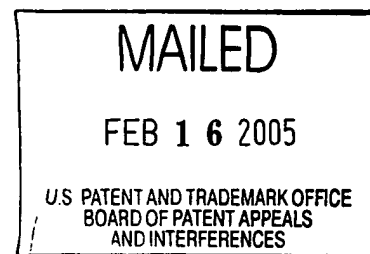
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Appeal No. 2004-2259  
Application 09/807,580

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HEARD: February 9, 2005

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Before FRANKFORT, McQUADE and NASE, Administrative Patent Judges.  
FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 8, 9 and 11 through 15, all of the claims remaining in this application. Claims 1 through 7 and 10 have been canceled.

Appellants' invention relates to a device having a wafer handling robot (24) situated in a sealed chamber (22) containing an essentially particle-free environment, wherein the wafer

handling device is used for sorting semiconductor wafers stored in cassettes (18, 19) docked with and sealed to chamber (22) and for transferring wafers into one or more measuring stations (16) associated with chamber (22) which may, for example, be designed to test layer thickness on treated wafers or to measure the amount of undesirable foreign particles present in/on a wafer. Appellants' invention additionally addresses a method for assembling a batch of wafers in assigned cassettes. Independent claims 8, 13 and 15 are representative of the subject matter on appeal and a copy those claims can be found in the Appendix to appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the claims on appeal are:

Rush et al. (Rush)	5,193,969	Mar. 16, 1993
Garric et al. (Garric)	5,388,945	Feb. 14, 1995
Muka	6,079,927	June 27, 2000
Cheng	6,164,894	Dec. 26, 2000
Allen	6,213,708	Apr. 10, 2001

Claims 8, 9 and 13 through 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Muka in view of Cheng and Allen.

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Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Muka in view of Cheng and Allen as applied to claim 8 above, taken further in view of Rush.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Muka in view of Cheng and Allen as applied to claim 8 above, taken further in view of Garric.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted § 103 rejections and the conflicting viewpoints advanced by appellants and the examiner regarding those rejections, we make reference to the examiner's answer (mailed May 6, 2004) for the reasoning in support of the rejections, and to appellants' brief (filed December 29, 2003) and reply brief (filed July 9, 2004) for the arguments thereagainst.

#### OPINION

In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to

the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we have made the determination that the above-noted § 103 rejections will not be sustained. Our reasons follow.

In the rejection of claims 8, 9 and 13 through 15 under 35 U.S.C. § 103(a) as being unpatentable over Muka in view of Cheng and Allen, the examiner points to the wafer processing apparatus seen in Figures 1-4 of Muka and contends that this apparatus meets all of the limitations of claim 8 on appeal except that Muka does not teach a device for sorting wafers directly from one cassette to another, or a measuring station being accessed by the wafer handling device (230) arranged in sealed chamber (262). To account for these perceived differences, the examiner looks to Cheng and Allen, urging that Cheng teaches providing a measuring station (16) that is accessed by a wafer handling device (50) and that Allen teaches a wafer transfer device that sorts wafers from one cassette to at least one other cassette. From these teachings in the applied prior art references, the examiner concludes that

[i]t would have been obvious to one of ordinary skill in the art, at the time of invention to provide the measuring station capabilities as taught by Cheng and the sorting capabilities taught by Allen to the device taught by Muka in order to allow the device to test wafers and to sort them after testing in order to keep the process station from processing defective wafers, thereby increasing the throughput of the system by avoiding the processing of defective wafers [answer, page 4].

Appellants argue in both their brief (pages 5-9) and reply brief that there is no suggestion in the applied prior art for combining the various individual components seen in Muka, Cheng and Allen in a way so as to result in the particular arrangement set forth in the claims on appeal, where a wafer handling device (24) is located in a sealable chamber (22) and is designed to both sort wafers directly between two or more cassettes and to access a measuring station (16). Thus, it is appellants' position that the examiner has impermissibly combined the disparate components found in the applied patents in hindsight, based upon appellants' own disclosure.

On page 7 of the answer, the examiner contends that the language of the claims on appeal (e.g., claim 8) sets forth that

a wafer handler within a housing accesses a measuring device, "but does not teach the measuring device being in the housing or connected to said chamber in any particular manner," and that the same is true for the wafer sorter. Based on these findings, the examiner concludes that the claims on appeal define "a generic structure that one of ordinary skill in the art would be able to build as no direction is given on the arrangement of the parts save for the wafer handler being located in the housing." On page 9 of the answer, the examiner appears to concede that there is no teaching in Muka, Cheng and Allen as to how the combined components thereof would be arranged, however, the examiner also contends that appellants' claims on appeal do not claim any particular arrangement for the elements in the present application, and urges that since the applied references were available at the time of the invention and deal with a wafer handler, "one of ordinary skill in the art would have been able to conceive of a manner of combining the devices."

We agree with appellants' arguments in the brief and reply brief that the examiner's contentions concerning the scope of

claim 8 are in error and that the applied patents to Muka, Cheng and Allen offer no suggestion or motivation for their combination in the particular arrangement required by the claims on appeal. Apparatus claim 8 and method claims 13 and 15 clearly specify and/or require an arrangement in which a wafer handling device positioned in a sealable chamber functionally connects various other features, that is, the measuring station, the closable cassettes, and the partition are arrayed, relative to the wafer handling device and the sealable chamber, so that the wafer handling device can **both** access the measuring station **and** sort wafers by transferring wafers directly between the cassettes that are open to the sealable chamber. The examiner's assertion that one of ordinary skill in the art "would have been able to conceive of a manner of combining the devices" in Muka, Cheng and Allen so as to result in that which is claimed by appellants, finds no factual basis in the prior art relied upon and appears to be based totally on speculation and conjecture, and the hindsight afforded the examiner by first having read appellants' disclosure in the present application.

In light of the foregoing, we find that the examiner has failed to establish a prima facie case of obviousness with regard to claims 8, 9 and 13 through 15 on appeal. Thus, we refuse to sustain the examiner's rejection of those claims under 35 U.S.C. § 103(a).

As for the examiner's rejection of dependent claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Muka, Cheng, Allen and Rush; and the rejection of claim 12 under 35 U.S.C. § 103(a) as being unpatentable over Muka, Cheng, Allen and Garric, we have reviewed the added prior art to Rush and Garric, but find nothing therein that overcomes or provides response for that which we have found lacking in the examiner's proposed combination of Muka, Cheng and Allen. Thus, for the reasons already set forth above, we will not sustain the examiner's rejections of dependent claims 11 and 12 under 35 U.S.C. § 103(a).

In light of the foregoing, the decision of the examiner to reject claims 8, 9 and 11 through 15 of the present application under 35 U.S.C. § 103(a) is reversed.

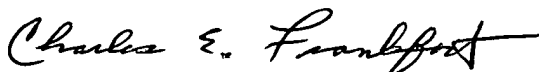


However, in reviewing the Muka patent we note that when the wafer handling robot seen in Figure 5 is used in place of the two wafer handling devices (230, 234) seen in Figures 3 and 4, the apparatus of Muka would appear to differ from that set forth in appellants' claim 8 only because of the requirement in claim 8 that the wafer handling device "accesses a measuring station," since Muka makes no mention of a measuring station. In that regard, we observe that when the wafer handling robot seen in Figure 5 is used in the sealable chamber (262) of Muka, such robot is clearly capable of accessing one or the other of the processing system ports (222, 224) and is "adapted to" transfer wafers directly between cassettes located at the two transfer stations (172, 174). Given this new perspective on the teachings found in Muka, we REMAND the application to the examiner to consider whether it would have been obvious to one of ordinary skill in the art at the time of appellants' invention to substitute a measuring station at one of the processing system ports (222, 224) of Muka's wafer processing equipment, and thereby result in a device like that set forth in claim 8 on appeal. Given the stand alone nature of the measuring apparatus

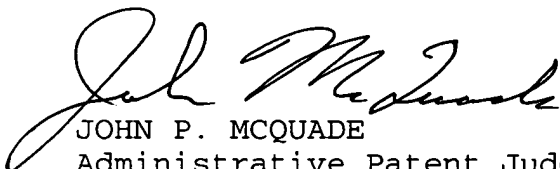
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seen in Cheng, we do not believe that it provides any reasonable teaching or suggestion for providing a measuring station in place of or at one of the processing system ports (222, 224) of Muka's apparatus. What the examiner needs to find is prior art showing a wafer handling robot within a sealable chamber which accesses both processing stations and at least one measuring station as part of an overall process for manufacturing semiconductor wafers.

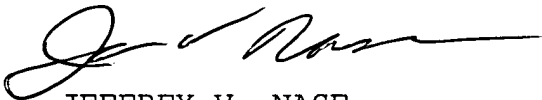
REVERSED AND REMANDED



CHARLES E. FRANKFORT  
Administrative Patent Judge



JOHN P. MCQUADE  
Administrative Patent Judge



JEFFREY V. NASE  
Administrative Patent Judge

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Knobbe Martens Olson & Bear LLP  
2040 Main Street - Fourteenth Floor  
Irvine, CA 92614